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### REMARKS

This Proposed Response After Final Rejection is submitted for consideration prior to the telephonic interview scheduled for September 8, 2004. Applicant's undersigned attorney thanks Examiner Fredman for granting the interview.

#### Priority

In the Office Action mailed on June 15, 2004, the Examiner indicated that claims 1-10 of the present application receive a priority date of February 12, 2002 because the Examiner found that the parent application fails to provide adequate support under 35 U.S.C. §112 for claims 1-10. Specifically, the Examiner did not find adequate support for the final step of claim 1, where "if the call is positive, confirming the positive call by a melting temperature analysis."

Applicant submits that claims 1-10 should receive a priority date of April 27, 1999 (the filing date of provisional application serial number 60/131,256 to which the present application claims priority) and respectfully requests reconsideration of the Examiner's objection based on the following reasons.

The present application is a continuation-in-part of U.S. Patent Application Serial No. 09/391,811 (herein referred to as "the Parent Application"), filed on September 8, 1999, which claims priority under 35 U.S.C. 119 (e) to U.S. Provisional Application No. 60/131,256 (herein referred to as "the Provisional Application") filed on April 27, 1999. Both the present application and the parent application expressly incorporate the provisional application by reference (see "Cross-Reference to Related Applications" in the parent application and the provisional application).

The Provisional Application describes melting temperature analysis following the detection of specific PCR products. Specifically, the Provisional Application states: on page 11, second to last paragraph,

"With SYBR green I (A), the melting characteristics of amplified dsDNA can be used to identify the amplified product (4). Although no hybridization information is revealed with exonuclease probes (B), the melting of hybridization probes (C) is readily apparent. Probe melting occurs at a characteristics temperature that can be exploited for specific product detection, quantification and genotyping"

on page 11, last paragraph,

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“[T]he melting curves obtained with hybridization probes can be considered “dynamic dot blots”, where the extent of hybridization is monitored at multiple temperatures. Different probe/target duplexes melt at different temperatures. . . . This forms the basis of a simple and elegant genotyping technique that has been applied. . . .”;

on page 15, second paragraph,

“[F]inally, genotyping of common human mutations can be performed directly from genomic DNA by amplification and melting curve analysis of hybridization probes”; and

on page 9, specifically second to last paragraph,

“[T]hree algorithms for automated genotyping will be compared, including simple melting temperature identification and two methods for quantifying the amount of each allele.”

See also pages 21-23 of the Provisional Application. In view of the above and general teachings in the Provisional Application, support under 35 U.S.C. §112 for claims 1-10 is found in the Provisional Application. Since the Provisional Application is incorporated by reference into both the Parent Application and the Present Application, the priority date of April 27, 1999 (the date on which the Provisional Application was filed) should be afforded to claims 1-10. Applicant respectfully requests that the Examiner afford a priority date of April 27, 1999 to the claims of this application.

#### Double Patenting

Claims 1-10 were rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-24 of U.S. Patent No. 6,387,621 in view of Herrmann et al. (Clin. Chem. (2000) 46(3): 425-428).

Based on the priority date of April 27, 1999 for claims 1-10, U.S. Patent No. 6,387,621 and Herrmann et al. are not proper prior art. U.S. Patent No. 6,387,621 was issued from the Parent Application, which has the same priority date as the Present Application. Herrmann et al. was published (in the year 2000) after the priority date of the Present Application. Accordingly, the obviousness-type double patenting rejection of claims 1-10 is improper and should be withdrawn.

#### Rejection under 35 U.S.C. §103

Claims 1 and 4-9 were rejected under 35 U.S.C. §103 as being unpatentable over Ririe et al. (Anal. Biochem. (1997) 245: 154-160) in view of Passing et al. (J. Clin. Chem. Clin. Biochem. (1983) 21: 709-720) and further in view of Herrmann et al. (Clin. Chem. (2000) 46(3):425-428).

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In view of the proper priority date of April 27, 1999 for claims 1-10, Herrmann et al. cannot be considered proper prior art because Herrmann et al. was published after the priority date of April 27, 1999 for claims 1-10. The rejection of claims 1-10 based on the combination of the cited references is improper. Accordingly, the rejection should be withdrawn.

### CONCLUSION

The foregoing remarks are believed to fully respond to the Examiner's rejections. The claims are in condition for allowance. Applicant respectfully requests allowance of the claims, and passage of the application to issuance.

Respectfully submitted,  
BARNES & THORNBURG

DRAFT

Kitisri Sukhapinda  
Attorney Reg. No. 47,116

KS/cad  
Indianapolis, IN  
(317) 231-7211

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